

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (Currently amended) An antenna device for a portable radio communication device operable in at least a first and a second frequency band, the antenna device comprising:

a first electrically conductive radiating element ~~(10; 110; 210; 310)~~ having a feeding portion ~~(12; 312)~~ connectable to a radio frequency feed device ~~(RF)~~ of the radio communication device and a grounding portion connectable to a ground device ~~(14,314)~~;

a second electrically conductive radiating element ~~(20;220;320)~~;

a controllable switch ~~(30; 130; 230; 330)~~ between the first and second radiating elements for selectively interconnecting and disconnecting the radiating elements, the state of the switch being controlled by means of a control voltage input ~~(Vswitch)~~; and

~~characterized by~~

a filter ~~(340)~~ comprising a ~~pure-resistance~~ resistor arranged between the second radiating element ~~(20'; 320)~~ and the control voltage input ~~(Vswitch)~~ such that the filter has purely resistive impedance, wherein the filter is arranged to block radio frequency signals.

2. (Currently Amended) The antenna device according to claim 1, wherein the switch ~~{30; 130; 230; 330}~~ comprises a PIN diode.

3. (Currently Amended) The antenna device according to claim 1, wherein the filter ~~{340}~~ is a low pass filter blocking signals at frequencies equal to and higher than the lower frequency band of said at least a first and a second frequency bands.

4. (Currently Amended) The antenna device according to claim 1, wherein the filter ~~{340}~~ is a band stop filter blocking signals in both a lower and a higher frequency band of said at least a first and a second frequency bands.

5. (Currently Amended) The antenna device according to claim 1, wherein the first radiating element ~~{310}~~ has a configuration that provides for more than one resonance frequency.

6. (Currently Amended) The antenna device according to claim 1, wherein at least one of the first and second radiating elements ~~{110, 120}~~ comprises a protruding portion ~~{110a, 110b, 120a, 120b}~~, and wherein the switch ~~{130; 230}~~ is connected to the protruding portion.

7. (Currently Amended) The antenna device according to claim 1, comprising a generally planar printed circuit board ~~{70}~~, wherein the first and second radiating elements ~~{10, 20}~~ and the switch ~~{30}~~ are arranged generally parallel to and spaced apart from the printed circuit board.

8. (Previously Amended) The antenna device according to claim 1, wherein the antenna device has a volume less than 3 cm³.

9. (Currently Amended) The antenna device according to claim 1, wherein the filter ~~(340)~~ is ~~provided~~ integrated with the second radiating element ~~(20')~~.

10. (Currently Amended) A portable radio communication device, comprising a generally planar printed circuit board and an antenna device connected to a radio frequency feed device ~~(RF)~~ with electronic circuits provided for transmitting and/or receiving RF signals, and a ground device, wherein the antenna device comprises:

a first electrically conductive radiating element ~~(10; 110; 210; 310)~~ having a feeding portion ~~(12; 312)~~ connected to the radio frequency feed device ~~(RF)~~ of the radio communication device and a grounding portion connected to the ground device;

a second electrically conductive radiating element ~~(20'; 120; 220; 320)~~;

a controllable switch ~~(30; 130; 230; 330)~~ arranged between the first and second radiating elements for selectively interconnecting and disconnecting the radiating elements, the state of the switch being controlled by means of control voltage input ~~(V_{switch})~~; and

characterized by

a filter ~~(40; 340)~~ comprising a ~~pure resistance~~ resistor arranged between the second radiating element ~~20; 340)~~ and the control voltage input ~~(V_{switch})~~ such that the filter has a purely resistive impedance, and wherein the filter is arranged to block radio frequency signals.

11. (New) The antenna device according to claim 1, wherein the filter does not include any capacitors or inductors.

12. (New) The antenna device according to claim 1, wherein the filter includes only the resistor.

13. (New) The antenna device according to claim 1, wherein the resistor is a pure resistor, and wherein the filter consists only of the pure resistor such that the impedance of the filter is entirely purely resistive.

14. (New) The antenna device according to claim 1, wherein the control voltage input is connected to the second radiating element by the filter.

15. (New) The antenna device according to claim 1, wherein only the filter is arranged between the second radiating element and the control voltage input, such that there are no inductors or capacitors arranged between the second radiating element and the control voltage input.

16. (New) A portable radio communication device, such as a mobile phone, comprising the antenna device according to claim 1.

17. (New) The portable radio communication device according to claim 10, wherein the filter does not include any capacitors or inductors.

18. (New) The portable radio communication device according to claim 10, wherein the filter includes only the resistor.

19. (New) A method of operating an antenna device in a portable radio communication device operable in at least a first and a second frequency band, the antenna device including a first electrically conductive radiating element having a feeding portion connectable to a radio frequency feed device of the radio communication device and a grounding portion connectable to a ground device; a second electrically conductive radiating element, a controllable switch between the first and second radiating elements for selectively interconnecting and disconnecting the radiating elements, the state of the switch being controlled by means of a control voltage input, the method comprising filtering the control voltage input with a filter having a purely resistive impedance coupled between the second radiating element and the control voltage input.

20. (New) The method of claim 19, wherein the filter includes only a pure resistor, and wherein filtering the control voltage input includes filtering the control voltage input only with the pure resistor, without using any capacitors or inductors.